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Factors Influencing Relational Satisfaction Within An Agricultural Education Mentoring Program

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Agricultural education is facing a teacher shortage. As a result, many states have implemented a mentoring program to help retain early career teachers. One of the challenges facing mentoring programs is the process of creating successful pairs. The purpose of this study was to determine if Mind Styles™ of mentors and protégés influenced satisfaction with the mentoring relationship. The study also describes demographics, Mind Styles™, and relational satisfaction scores of both mentors and protégés. Data were collected using the Gregorc Style Delineator™ as well as the Mentoring Relationship Questionnaire. The subjects for this study were all mentors and first year protégés in Missouri. The average age of mentors was 40.83 with the average protégé being 25.28 years of age. The mentor group was 80% male while protégés were 69% male. The group was largely Concrete Sequential, but all styles did appear at least once. Differences in relational satisfaction based on Mind Style™ combinations were found for three different combinations. A large effect size was found for Concrete Sequential mentors paired with Abstract Random protégés, indicating a difference in satisfaction.

Introduction/Theoretical Framework/Review of Literature

The National Commission on Teaching and America's Future (1996) suggested a number of strategies for supporting beginning teachers. One strategy emphasized the development of an effective induction program which utilized teacher mentoring (National Commission on Teaching and America's Future). Buttery, Haberman, and Houston's (1990) research reiterated the importance of mentoring. In fact, mentoring beginning teachers was rated as one of the two most critical issues for improving teacher education by a group of teacher educators (Buttery et al.).

According to Kram (1985), mentors are described as individuals with experience who are committed to providing support to a protégé. Mentoring has been shown to have a positive impact on both job satisfaction (Koberg, Boss, Chappell, & Ringer, 1994) and teacher retention (Archer, 1999; Fideler & Haselkorn, 1999). Conversely, poor induction experiences contribute to high attrition rates and low levels of teacher effectiveness (National Commission on Teaching and America's Future, 1996). The key to a successful mentoring program is the mentor–protégé relationship (Gray & Gray, 1985).

As Camp, Broyles, and Skelton (2002) noted, agricultural education faces an ongoing shortage of qualified teachers in the field. Perhaps, an effective induction program, utilizing teacher mentoring could contribute to teacher retention in the agricultural education field.

There are two types of mentoring: formal and informal (Ragins & Cotton, 1999). Informal mentoring develops from a perceived competence and interpersonal comfort between two professionals (Kram, 1985). Members of informal mentoring partnerships self–select partners with whom they enjoy working with

and ultimately build a relationship (Kram), but formal mentoring partners are often assigned on the basis of an application (Douglas, 1997; Gaskill, 1993). In many cases of formal mentoring, the mentor and protégé do not even meet until after the match has been made (Ragins & Cotton). Recognizing the benefits of informal mentoring, many organizations have attempted to replicate it by creating formal mentoring programs (Burke & McKeen, 1989; Geiger–DuMond & Boyle, 1995). However, formal mentoring programs are being developed without the benefit of empirical research and often do not yield the same benefits as informal relationships (Ragins & Cotton).

In Missouri, a formal mentoring program has been established to address issues encountered by beginning teachers. Specifically, the *Excellence in Education Act* was passed in 1985 by the state legislature. The act required school districts to not only provide professional development for all teachers, but also to assign a formal mentor to beginning teachers (MCCE, n.d.). To comply with the policy, many school districts paired beginning teachers with mentors from within their school district. As a consequence, most beginning agriculture teachers were matched with mentors outside of their discipline. In such situations, beginning teachers are unable to obtain programmatic advice relating to agricultural education specific topics from mentors. Recent legislation requires and finances a *mandatory* mentoring program for all novice teachers in Missouri, not just CTE teachers, using formal mentors from within their own discipline (Minutes, 2007).

According to minutes of the May Missouri Agricultural Education Joint Staff meeting (Minutes, 2007), requirements for the mentoring program stipulate that all new teachers who have not completed a formal mentoring program must participate. Mentors for beginning teachers are selected by district supervisors with specific guidelines serving as parameters for the selection. The parameters for mentor selection include the following requirements: (a) Must be from the same area of the state; (b) Must not be a cooperating teacher during that year; (c) Should advise a superior FFA chapter; (d) Must have buy in from the protégé; (e) Must attend the same professional meetings as their protégé; (f) Must fulfill the SAE requirements for cooperating teaching centers in the state; (g) A maximum of two protégés may be assigned per mentor, and, if more than one protégé is assigned to a single mentor, both protégés must be in the same year of the program.

Theoretical Framework

Kram (1985) described mentoring as a developmental relationship in which mentors provide functions that enhance both an individual's growth and advancement. According to Kram's mentor role theory, there are two functions of a developmental mentoring relationship: career functions and psychosocial functions. This classification provides a theoretical framework in which mentoring relationships can be evaluated.

Psychosocial functions serve to build up the identities, competence, and effectiveness of protégés and mentors in their professional roles. These functions include acceptance, counseling, friendship, and role modeling. The fifth psychosocial function, social, was incorporated into the theory later (Ragins & McFarlin, 1990). Kram (1985) also suggested that the more functions provided by the mentor, the more beneficial the relationship is to the protégé. It is also important to note that mentoring is not an all or nothing phenomenon; mentors may be meeting all or just some of the protégés needs (Ragins & Cotton, 1999). Additionally, mentoring may not have an immediate impact; benefits may continue to appear over time (Kram).

This study utilized the Gregorc Style Delineator™ (Gregorc, 1982a) which is designed to reveal two types of mediation abilities: perception and ordering. Gregorc defined perceptual abilities as the means through which individuals grasp information. These perceptual abilities emerge on a continuum, which consists of abstractness and concreteness at opposing ends. Concrete people tend to grasp concepts that they can experience through their physical senses of touch, taste, sight, smell and hearing. In addition, people who are concrete, often see the world as right or wrong and black or white. Generally, abstract people see shades of grey and recognize areas in which things could be right *and* wrong.

Gregorc (1982a) also described the way an individual arranges, systematizes, and references information. This is known as their ordering abilities. Ordering abilities are represented by a

continuum ranging from sequenced to random. For example, some individuals can only process information if it is given in a logical, ordered manner (sequenced). If information is not presented in this way, they will typically have to put the information into some kind of sequence before processing it. Meanwhile, a random person can process information in an atypical and seemingly "random" manner. By placing a person's learning style within this continuum, they can be classified into one of four learning styles: Concrete Sequential (CS), Abstract Sequential (AS), Abstract Random (AR), or Concrete Random (CR).

While Gregorc (1982a) identified four separate Mind Styles™, no one style is considered to be better or worse than the others. Every individual can learn in any situation. However, everyone has a preferred Mind Style™. Gregorc noted that very few learners are flexible enough to reach far beyond their own *perception* and *ordering* abilities. Could this have a consequence when looking at mentor and protégé relationships? Would such information have the potential to improve mentor/protégé pairings? If protégés were paired with more similar mentors, would the mentoring process be more successful? To address such questions and determine if a difference exists between relational satisfaction based on Mind Style™, this study sought to move from *perceived* similarity to *measured* similarity.

Related Research

Interestingly, within agricultural education, much research has been done on the effects of preferred mind styles. Personality type has been used to assist teachers in understanding learning styles, communication styles, relationships, teamwork, and leadership (Hammer, 1996). Dyer and Osborn (1996) explored the idea that instructional methods correspond to preferred styles, and found that by matching instructional styles to learning preference, the quality of instruction was improved. Further, it was reported that students enrolled in a college of agriculture were primarily field independent learners when completing the Group Embedded Figures Test (Cano, 1999). It should be noted that a field independent learner is the equivalent of a CS/CR on the Gregorc Style Delineator™ (Myers & Dyer, 2006).

A study of beginning teachers and mentors by Greiman, Birkenholz, and Stewart (2003) sought to determine the satisfaction of both mentors and protégés with the mentoring process and the similarity of their relationship. This study showed that mentors were more satisfied with the mentoring process than beginning teachers. In addition, mentors also perceived more of a similarity among the pair than did beginning teachers. Data showed a significant positive relationship between perceived satisfaction and perceived similarity among both mentors and protégés. Nonetheless, in most mentor/protégé pairings, little to no consideration is given to identifying similarities between mentors and protégés. Quite often, other factors, such as location, availability and other convenience–related factors seem to play a larger role in the selection.

Greiman et al. (2003) investigated mentoring in agricultural education, specifically addressing the perceptions of formal mentors and novice teachers in terms of psychosocial assistance. Peiter, Terry, and Cartmell (2003) found that many first year agricultural educators experience problems during their first year of teaching and receive no help from a mentor.

Certainly, the outcomes of informal mentoring partnerships are best. However, Missouri currently has a formal mentoring program. Therefore, the question becomes how can we create formal mentoring partnerships to most closely mimic informal partnerships? If more consideration was given to selection criteria and characteristics of the individuals, would the satisfaction with the relationship be improved?

Purpose/Research Questions

The purpose of this study was two–fold. First, the study sought to describe the relational satisfaction of agricultural education mentors and protégés. Additionally, the study sought to explain the difference in satisfaction with the relationship based on Mind Style™. Four research questions were developed to guide the study:

1. What are the demographic characteristics of agricultural education mentor/protégé pairs in Missouri?

2. What is the level of relational satisfaction of mentors and protégés in Missouri?
3. What is the Gregorc Mind Style™ (AS, CS, AR, CR) of agricultural education mentors and protégés?
4. What is the difference in the level of relational satisfaction based on the Mind Style™ combination between mentors and protégés?

Methodology

The study was descriptive–survey research. The subjects for the study were all agriculture teachers in Missouri completing their first year of teaching during the 2007–2008 school year (n = 32), and their assigned mentors (n = 28).

The two instruments used in the study included the Gregorc Style Delineator™ (GSD) and the Mentor Relationship Questionnaire (MRQ). When completing the GSD, users rank their feelings regarding 40 words especially chosen to illicit a positive or negative psychological association (Gregorc, 1997). The values are then tallied to reveal a style profile, which includes a score for perceptiveness ranging from Abstract (A) to Concrete (C) and a score in ordering ability from Random (R) to Sequential (S). These two scores create four possible style combinations: AS, CS, AR, CR (Gregorc, 1997). Because the GSD is a commercially available instrument, its validity and reliability have been previously established. Gregorc established validity for the GSD and reported reliability with alpha coefficients from 0.85 to 0.88. In addition, Gregorc published internal consistency reliability coefficients ranging from 0.89 for the AS scale to 0.93 for the AR scale (Gregorc, 1982b).

The relational satisfaction of the mentors and protégés was collected using the MRQ, an instrument developed by Greiman in 2002 and revised in 2004. Section one of the beginning teacher version of the instrument asked subjects to identify the extent to which their mentoring relationship met their psychosocial needs. There were 15 statements in this section, representing each of the 5 psychosocial functions (acceptance, counseling, friendship, role modeling, and social). The next section addressed the extent to which mentor met the psychosocial needs of protégés. The third section required the user to rate their perceived likeness and their perceived level of satisfaction with the relationship. The final section of the MRQ collected demographic information. For mentors, an alternate form of this instrument was created following the same design.

Validity for both forms of the MRQ was established through prior research by a panel of experts (N = 8) with an identifiable research focus on mentoring (Greiman, 2002). Reliability estimates for the perceived satisfaction section of the instrument were reported as alpha coefficients equaling .99 for the beginning teacher version and .98 for the mentor version (Greiman).This section of the MRQ was the only section utilized in this study.

The GSD was administered to both mentors and protégés as part of the state's Fall Mentor/Protégé Conference. Results were collected during a workshop that taught the participants about their Mind Style™ and how they could use that knowledge to have a better relationship with one another. To obtain data from non–respondents, absentees were asked to complete the GSD while attending fall area meetings. This data collection procedure was acceptable since Mind Style™ is not time sensitive (Salter, Evans, & Forney, 2006).

Prior to the distribution of the MRQ, all participants received a pre–participation e–mail. The MRQ was mailed on March 1, 2008 with a cover letter signed by the program administrator, including a return envelope with paid postage. This date was chosen as it signals the completion of the official mentoring program for the year and responses would be based upon the entire year's experience. Subjects who had not responded within 10 days received a follow–up e–mail to encourage participation. One week later, a second package was sent to non–respondents. A final contact via phone was made approximately 25 days after initial packets were mailed. The resulting response rate was 100% (n = 28) for mentors and 78% (n = 25) for protégés. Early responders were compared to those who responded after personal contact and no significant differences were found (Miller & Smith, 1983). As a result, it was concluded that the responding sample appropriately represents the population. For the purposes of data analysis, however, only complete data sets could be utilized, yielding 23 pairs of useable data (mentors: n = 23, 82%; protégés: n = 23, 72%).

To address research questions one, two, and three, descriptive statistics were calculated as appropriate. Based upon the type of data involved, frequencies, percentages, means, standard deviations and ranges were calculated. To address research question four, mentor/protégé pairs were identified by the Mind Style™ combination. For comparisons with more than one pair, Cohen's *d* (Thalheimer & Cook, 2002) was calculated to identify differences in relational satisfaction.

Findings

Research question one sought to describe the demographic characteristics of agricultural education mentors and protégés (see Tables 1 and2). A total of 46 mentoring program participants completed the demographics component of the mailed questionnaire. The ages of mentors ranged from 26 to 60 years (M = 40.30; SD = 9.51). Ages of protégés' ranged from 22 to 36 years (M = 25.30; SD = 3.86). A total of 17 (73.91%) mentors were male. Similarly, with regard to protégés, 15 (65.21%) were male, while 8 (34.78%) were female. The mentors' years of experience ranged from 2.5 to 30 (M = 15.24; SD = 7.86) years.

Table 1
Demographic Characteristics of Mentors (n = 23)

Characteristic	*f*	*%*	*M*	*SD*	Range
Sex					
Male	17	73.91			
Female	6	26.09			
Age			40.30	9.51	26–60
Years Taught			15.24	7.86	2.5–30

A total of 20 (87%) protégés taught in a comprehensive high school. The certification status of 5 (21.78%) protégés was found to be temporary. The protégés taught in departments ranging from 1 to 3 (M = 1.52; SD = 0.59) teachers. The protégés had an average of slightly more than 92 (SD = 58.53; Range = 25–280) students in their program.

Table 2
Demographic Characteristics of Protégés (n = 23)

Characteristic	*f*	*%*	*M*	*SD*	Range
Kind of High School					
Comprehensive	20	87.00			
AVTS Career Center	3	13.00			
Sex					
Male	15	65.21			
Female	8	34.78			
Certification Status					
Certified	18	78.26			
Temporary	5	21.74			
Age			25.30	3.86	22–36
Number of Students			92.26	58.53	25–280
Number of Instructors			1.52	0.59	1–3

Research question two sought to describe the level of relational satisfaction of mentors and protégés. Responses to five items included on the MRQ were used to describe the level of

relational satisfaction using a seven–point Likert scale, ranging from Strongly Disagree to Strongly Agree. For ease of interpretation, responses were reduced into three categories: disagree, neutral, and agree. As shown in Table 3, a higher percentage of protégés responded favorably to the items than did mentors. When asked about the mentoring experience, approximately 87% of mentors agreed it was positive. Within protégés, 95.65% agreed it was a positive experience. Nearly 87% of mentors agreed that they appreciated the opportunity to interact with their counterpart. Approximately 65% of protégés agreed that they were glad for the opportunity to interact. Mentors and protégés were also asked if the relationship was successful. Over 95% of protégés indicated that the relationship was, while just over 82% of mentors indicted the same. Approximately 9% of protégés and mentors indicated that they would not want to be assigned to the same pair if they were in the program again, while over 91% of mentors and protégés were satisfied with their respective pair.

Table 3
Descriptive Statistics for Perceived Relational Satisfaction of Mentoring Program Participants (*n* = 46)

	Protégé (*n* = 23)						Mentor (*n* = 23)					
	Disagree		Neutral		Agree		Disagree		Neutral		Agree	
Question	*f*	%	*f*	%	*f*	%	*f*	%	*f*	%	*f*	%
The relationship has been a positive experience.	1	4.35	0	0.00	22	95.65	2	8.70	1	4.35	20	86.95
I am glad I had the opportunity to interact with my mentor/ protégé.	1	4.35	0	0.00	22	95.65	1	4.35	2	8.70	20	86.95
The relationship has been successful.	1	4.35	0	0.00	22	95.65	2	8.70	2	8.70	19	82.60
If I had it to do over again, I would want the same mentor/ protégé.	2	8.70	0	0.00	21	91.30	2	8.70	3	13.04	18	78.26
I was satisfied with the interaction.	2	8.70	0	0.00	21	91.30	2	8.70	0	0.00	21	91.30

Note. Scale: 1=Strongly Disagree, 3=Disagree, 5=Agree, 7=Strongly Agree

Overall, both protégés (*M* = 6.20; *SD* = 1.33) and mentors (*M* = 5.64; *SD* = 1.38) were satisfied with their relationships, as indicated by mean summated scores within the range of the Agree and Strongly Agree categories (see Table 4).

Table 4
Descriptive Statistics for Summated Mentoring Relationship Satisfaction (n = 46)

Participant	*n*	*M*	*SD*	Range
Mentor	23	5.64	1.38	1.00 – 7.00
Protégé	23	6.20	1.33	1.40 – 7.00

Note. Scale: 1=Strongly Disagree, 3=Disagree, 5=Agree, 7=Strongly Agree

Research question three sought to describe the Mind Styles™ of mentoring program participants. Frequencies and percentages for each of the four Mind Styles™ are shown in Table 5. Based on the descriptive statistics provided, the largest proportion of agricultural education mentors involved in the mentoring program are classified as Concrete Sequential (CS) (58.62%). Conversely, only one mentor was classified as Abstract Random (AR). Similarly, the majority (76.92%) of protégés were classified as Concrete Sequential. Only six

protégés were not Concrete Sequential, with three classified as Abstract Random, two as Abstract Sequential and one classified as Concrete Random.

Table 5
Mind Styles™ of Mentoring Program Participants as Measured by the GSD™ (*n* = 23 pairs)

	Mentors (*n* = 23)		Protégés (*n* = 23)	
Style	*f*	%	*f*	%
Concrete Sequential	14	60.87	17	73.91
Concrete Random	5	21.74	1	4.35
Abstract Sequential	3	13.04	2	8.70
Abstract Random	1	4.35	3	13.04

In order to further analyze the pairings of mentors and protégés and assess similarities in Mind Style™, Table 6 provides a listing of mentor/protégé combinations, and the frequencies and percentages for each pairing. The most frequent combination is CS–CS (47.83%), although 13% of were categorized as CR–CS. Half of the possible combinations did not appear in our study. It should be noted that the combinations reflect mentor/protégé pairs, in that order.

Table 6
Comparison of Mentor and Protégé Relational Satisfaction within Mind Style™ Pairs (*n* = 23 pairs)

			Mentor		Protégé	
Combination	*f*	%	*M*	*SD*	*M*	*SD*
CS – CR	1	4.35	5.00	–	6.00	–
CS – AR	2	8.70	5.50	0.71	7.00	0.00
CS – CS	11	47.83	5.42	1.72	5.80	1.76
AS – CR	2	8.70	6.50	0.71	6.30	0.42
AS – CS	2	8.70	6.80	0.00	6.70	0.42
CR – AS	1	4.35	4.00	–	7.00	–
CR – AR	1	4.35	6.60	–	7.00	–
CR – CS	3	13.04	5.53	1.29	6.27	1.10

Note. No pairing for CS–AS, AS–AS, AS–AR, AR–AR, AR–AS, AR–CR, AR–CS, or CR–CR.

Research question four investigated the difference in summated relational satisfaction scores as measured by the MRQ, based upon the GSD combination of mentor/protégé pairs. Due to the small number of subjects, several Mind Style™ combinations had few, if any, pairs represented. For combinations that had only one pair, differences can only be compared through observation. The CR – AS combination appears to have a large difference in relational satisfaction with the mentor indicating a 4.00 summated total and the protégé indicating at 7.00 total. The other combination with a noticeable difference was the CS – CR combination. The mentor's summated total was 5.00, while the protégé had a 6.00 summated total.

For the combinations with more than one pair, Cohen's *d* was calculated to determine effect size. The CS – AR combination had a large effect size with a Cohen's *d* of 3.05. The combination of CS – CS had a small effect size with a Cohen's *d* of 0.16. The Cohen's *d* for the AS – CR combination was 0.35 creating a small effect size. Likewise, the AS – CS combination had a small effect size with a Cohen's *d* of 0.34. The CR – CS combination had a medium effect size with a 0.63 Cohen's *d*.

Conclusions/Implications/Recommendations

Most mentoring program participants are male, including over 80% of mentors and nearly three–quarters of all protégés. With regard to age, perhaps the most interesting finding was the range of ages among both mentors and protégés. Age for mentors ranged from 26–60 with protégés ranging from 22–36. This large range of ages among mentors could be a result of the need to satisfy the state requirements to serve in the mentor role. The age range for the protégés could indicate increased lateral entry or second career professionals entering the field.

The findings related to satisfaction with the current mentoring relationship indicate that both mentors and protégés are satisfied, although protégés are more satisfied than mentors. What, if anything, could be done to increase the satisfaction of mentors involved in the mentoring relationship? What factors contribute to mentors' slightly lower satisfaction? The program has been designed to assist teachers in their first year; therefore, high relational satisfaction is a positive outcome. Since the importance of the program has been stressed to the mentors, could their lower satisfaction be a factor of self–efficacy? Professionals know the importance of a quality mentor. The mentor teachers might be indicating that they could have done more in the relationship.

Approximately 10% of protégés would not choose the same mentor if they could choose again. Although they would not choose the same mentor, overall relational satisfaction was still high, implying that the protégés still benefitted from the mentor despite a less than perfect experience. The program must continue to improve the process of assigning mentor to protégés. While identifying mentors, input should be collected from many sources (i.e. teacher educators, state personnel, protégés, etc). Two items could be inhibiting the mentor–protégé relationship. First, protégés in a formal relationship may perceive that their mentor is only spending time with them because of program mandates and, secondly, both partners realize that the relationship is short term. These factors may restrict the trust and closeness that develops (Ragins & Cotton, 1999).

The GSD results for the group studied seemed to support the Cano's (1999) findings which indicated that many students in colleges of agriculture are field independent. Many of the subjects in this study were former college of agriculture students, and therefore, it should not be surprising that 59% of mentors and 77% of protégés were Concrete Sequential. As Myers and Dyer (2006) indicated, a field independent learner according to the GEFT is the equivalent to a Concrete Sequential or Concrete Random on the GSD.

Gray and Gray (1985) stated that mentoring is only successful if there is a successful mentor–protégé relationship. To date, the GSD has been used widely to assess relationships, particularly between and among teachers and students. However, the findings for this group of mentors and protégés indicated that Mind Style™ did not affect relational satisfaction. Further, a mentor/protégé relationship could be similar to a teacher/student relationship, but is not necessarily the same. Transfer of knowledge and/or information was not measured within this study. Perhaps the mentors and protégés were satisfied with the relationship and Mind Style™ was not a factor in the relationship. However, could Mind Style™ be a factor in the process of teaching and learning that occurs in a mentoring relationship? Further study is necessary to investigate this topic.

Although the small number of subjects created complications when determining the difference in satisfaction based on Mind Style™, some differences were found. Through observation, it appears that mentors were less satisfied with the relationship in the CS – CR combination and the CR – AS combination. The large effect size for the CS – AR combination indicates a potential disconnect in the relational satisfaction between individuals in these pairs. The lower satisfaction for the mentors may indicate that Concrete Sequential mentors have difficulty working with the Abstract Random protégés. Perhaps, the Abstract Random protégés don't mind the structure of the mentors, but the Concrete Sequential mentor has a hard time dealing with the protégés. This finding is supported by Clawson (1979) who found good mentors prefer abstract concepts and Alleman (1982) whose research indicated that good mentors are flexible. However, since these differences are based on small numbers, modifications to the mentoring selection process could be made, but additional data should be collected from mentor and protégé pairs to

substantiate these findings. It is recommended that a multiple year study be conducted to increase the amount of usable data.

Ultimately, as a result of this study and its findings, the following recommendations for further research are suggested: (a) continue to assess the value of mentoring programs on the retention of beginning teachers, (b) explore what could make the mentoring experience more positive for mentors, (c) replicate the study with future program participants in a longitudinal trend type study, and finally, (d) expand the study to include a larger number of subjects, thus increasing the size of *n*.

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